



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/666,515	09/18/2003	Mikhail A. Dmitriev	SUN-P9376-SPL	9178

22835 7590 09/26/2006

PARK, VAUGHAN & FLEMING LLP  
2820 FIFTH STREET  
DAVIS, CA 95618-7759

EXAMINER

WANG, RONGFA PHILIP

ART UNIT PAPER NUMBER

2191

DATE MAILED: 09/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/666,515

Applicant(s)

DMITRIEV, MIKHAIL A.

Examiner

Philip Wang

Art Unit

2191

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

***Detail Action***

1. This office action is in response to the application filed on 9/18/2003.
2. Claims 1-24 are pending.

***Claim Rejections - 35 USC § 101***

3. Claims 9-24 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 9-16 recite the limitation of a computer-readable medium. Such computer-readable medium can be signals embodied in a transmission medium (per Applicant's specification, page 7, line 24-25). Signal is considered a form of energy is not considered as a statutory subject matter.

Claims 17-24 recite the limitation of an apparatus for performing time measurement during instrumentation-based profiling. Such apparatus can be broadly interpreted as pure software for performing the recited functions. And software is not a statutory subject matter.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

Art Unit: 2191

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Beck et al. (USPGPub. NO. 2002/0049963) in view of Almy et al. (US Patent No. 6,609,216).

As per claim 1,

Beck et al.

- receiving a code to be profiled; inserting profiling instrumentation code in the code; executing the code including the instrumented portions of the code ([0087]: 8-9, "...can effect any desired instrumentation function, recording date and time..."; line 17, "...measure the time required for... the ...method");

Beck et al. does not specifically disclose

- measuring a time for executing instrumented portions of the code; and subtracting an overhead time for the profiling instrumentation code from the measured time to obtain the time for the instrumented portions of the code.

However, Almy et al. disclose

- measuring a time for executing instrumented portions of the code; and subtracting an overhead time for the profiling instrumentation code from the measured time to obtain the time for the instrumented portions of the

Art Unit: 2191

code (c2: 23- 49, discloses how to get the time measurement of one or more instructions by subtracting an overhead time from the overall measurement time. Specifically, col. 2, line 38-41, "The difference between the first sequence time and the second sequence time...as the number of cycles used to execute that instruction.").

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Almy et al. into the teachings of Beck et al. to include measuring a time for executing instrumented portions of the code; and subtracting an overhead time for the profiling instrumentation code from the measured time to obtain the time for the instrumented portions of the code. The modification would be obvious to one of ordinary skill in the art to want to measure the performance of individual code as suggested by Almy et al. (c1: 61-63).

As per claim 2,

the rejection of claim 1 is incorporated;

Beck et al. disclose

- the code includes platform- independent Java bytecodes ([0097],  
"The modification of instructions including  
bytecode...").

As per claim 3,

the rejection of claim 1 is incorporated;

Almy et al. disclose

- the overhead time is determined by executing the profiling instrumentation code without executing any instrumented code (c2: 23-49, when  $n = 0$ ).

As per claim 4,

the rejection of claim 3 is incorporated;

Almy et al. disclose

- the profiling instrumentation code is executed multiple times to determine an average value for the overhead time (c3: 53-54, "...repeated a number of times...").

As per claim 5,

the rejection of claim 4 is incorporated;

Beck et al.

- wherein the profiling instrumentation code includes method entry code that takes a first time measurement at the beginning of a method, and method exit code that takes a second time measurement at the end of the method, wherein the first and second time measurements are used to calculate an execution time for the method ([0087], "...any desired

Art Unit: 2191

instrumentation...e.g., recording of date and time of its invocation...before and/or after explicitly invoking ...").

As per claim 6,

the rejection of claim 5 is incorporated;

Almy et al. disclose

- determining the overhead time involves calculating an inner time  $t_i = x_2 + y_1$ , wherein  $y_1$  is the time between when the first time measurement is taken and when the method entry code is finished executing, and wherein  $x_2$  is the time between when the method exit code begins executing and when the second time measurement is taken (c2: 23-49).

As per claim 7,

the rejection of claim 6 is incorporated;

Almy et al. disclose

- wherein the time  $t_{\text{exact}}$  for executing instrumented portions of the code is calculated as  $t_{\text{exact}} = t_{\text{meas}} - t_i$  (c2: 23-49).

As per claim 8,

the rejection of claim 7 is incorporated;

- wherein if the method makes  $m$  calls to other methods, the time for executing instrumented portions of the code  $t_{\text{exact}} = t_{\text{meas}} - t_i - mt_o$ , wherein the outer time,  $t_o = x_1 + y_2$ , wherein  $x_1$  is the time between when the method entry code begins executing and when the first time measurement is taken, and wherein  $y_2$  is the time between when the second time measurement is taken and when the method exit code is finished executing (c2: 23-49) .

As per claims 9-16, they are the computer-readable medium claims corresponding to method claims 1-8 respectively and are rejected for the same reason set forth in connection of the rejection of claim 1-8 above.

As per claims 17-24, they are the apparatus claims corresponding to method claims 1-8 respectively and are rejected for the same reason set forth in connection of the rejection of claim 1-8 above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Art Unit: 2191

It is noted that any citation **[[s]]** to specific, pages, columns, lines, or figures in the prior art references and any interpretation of the references should not be considered to be limiting in any way. A reference is relevant for all it contains and may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art. **[[See, MPEP 2123]]**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip Wang whose telephone number is 571-272-5934. The examiner can normally be reached on Mon - Fri 8:00AM - 4:00PM. Any inquiry of general nature or relating to the status of this application should be directed to the TC2100 Group receptionist: 571-272-2100.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wei Zhen can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
WEI ZHEN  
SUPERVISORY PATENT EXAMINER